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NATIONAL WEATHER SERVICE

BOISE, IDAHO

<http://www.weather.gov/boise>

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Idaho Rivers Continue to Run High

By Jay Breidenbach, Hydrologist

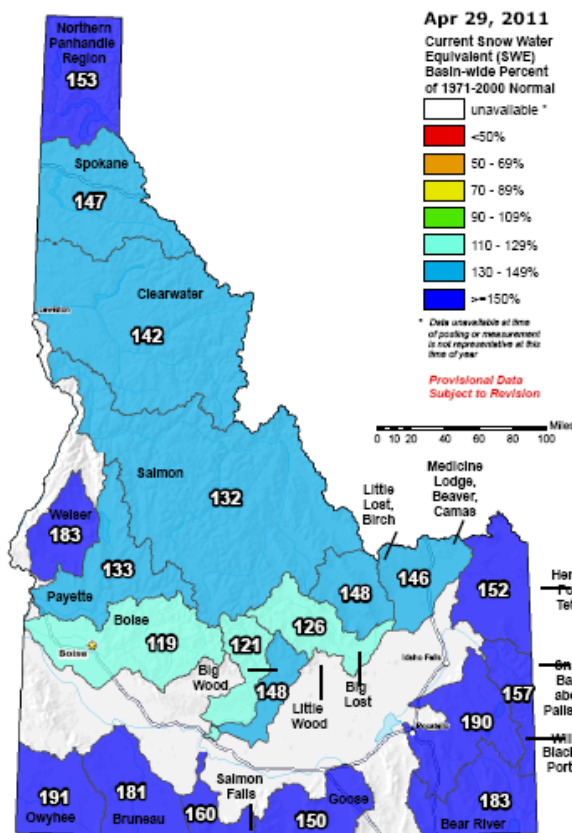
Mountain snowpack continues to range from 120 to over 160 percent of normal 51, but remained just below the level of the road surface.

across the state of Idaho. Some of the largest values relative to normal are in the Bruneau and Owyhee River Basins of southwestern Idaho. Anytime the snowpack is exposed to warm temperatures or rainfall, runoff occurs and causes the rivers to rise.

More than an inch of rain fell in headwaters of the Bruneau and Owyhee River Basins on April 17th and 18th which caused rapid river rises. The Bruneau River crested at 10.7 feet at the USGS River Gage located near Hot Springs. This value was well above flood stage of 9.0 feet and caused minor flooding near the river in Owyhee County. The river even threatened to flow over highway

Meanwhile, on the Owyhee River, high inflows into Owyhee Reservoir caused the reservoir to fill to near capacity. Reservoir managers took flood control steps and discharged enough water through the spillway to cause minor flooding downstream.

Unusually cold weather in late April has slowed snowmelt, but warm weather or rain could cause these and other rivers across Idaho to rise.



Keep up-to-date on the latest river stages and forecasts in the Advanced Hydrologic Services section of our web page using the AHPS river and lakes web link below:

[NWS-Boise Rivers & Lakes](#)

“Unstable” Air Mass: What Does It Actually Mean?

By Les Colin, Meteorologist

Perhaps you have wondered what forecasters mean when they talk about an “unstable” air mass. You may sense that it is somehow associated with adverse weather, and it usually is. But what does it really mean?

Stability has to do with the tendency of an object to return to its original position when it is displaced. The stronger this tendency, the greater the stability. Imagine a marble in a round bowl. The stable situation is when the marble is at rest in the bottom of the bowl. If you give it a slight push it will settle back at the bottom of the bowl, its original position. But now turn the bowl turned upside down and put the marble on top. If you give it even a slight push it will fall off the bowl and probably roll off the table. It certainly won't roll back to the top of the bowl. This is an unstable situation, that is, the object tends to move farther away from its original position when it is displaced.

With air masses the stable configuration is colder, heavier air below warmer, lighter air. That's because gravity pulls the colder, heavy air down. The warmer lighter air is forced out of the way, which usually means up so that the colder air can occupy all the preferred lower positions. By the way, the expression “warm air rises” is true only because cold air sinks (because of gravity) and the warm air gets out of the way.

So now we have warm air above cold air. This is a stable arrangement. If the cold air is pushed up, or the warm air pushed down, they will soon settle back

to the stable configuration of warm air above cold air.

But warm air under cold air is an unstable configuration. Gravity tries to reverse their positions, and if it succeeds the air masses will not return to warm beneath cold.

Now the important part. Air cools as it rises. And cooler air can't hold as much moisture as it did when it was warmer. The excess moisture is jettisoned, forming clouds, and often precipitation. The more forcefully moist air rises and cools, the greater cloud formation will be.

The “amount” of the tendency for air masses to change position can be quantified. This allows forecasters to evaluate and compare the readiness of different air masses to form clouds and precipitation. Extremely unstable air masses produce thunderstorms and sometimes tornadoes.

You may be surprised to know that moist air is lighter than dry air, other factors (like temperature and pressure) being equal. A molecule of water vapor is lighter than a molecule of dry air. So every molecule of dry air that is replaced by a molecule of water vapor makes the air mass a little lighter.

You may also wonder how it is possible for warm air to get under colder air in the first place. Well, the sun warms the ground and that warmth reaches the lower air first. By midday the low level air can become too warm to stay beneath the colder air above, so they change places.

Weather In the News

[April 2011 Tornado Information \(NOAA News\)](#)

[Late April Tornado Outbreak Sets New Record \(CNN\)](#)

[Map of the Tornadoes Across the South \(NY Times\)](#)

[Anxiety Rises Along the Flood-Swollen Mississippi \(AP via Yahoo News\)](#)

2011 Fire Weather Outlook

By Chuck Redman, Meteorologist

As previously mentioned, the cool and wet winter of 2010-2011 has continued this spring, and the current snowpack across Idaho and Oregon reflects this.

Considering the last two springs have had above normal precipitation, and the large snowpack this spring, the upcoming fire season should start about a month later than normal. By the end of July and into August, the fuels across the area may begin to support large fires.

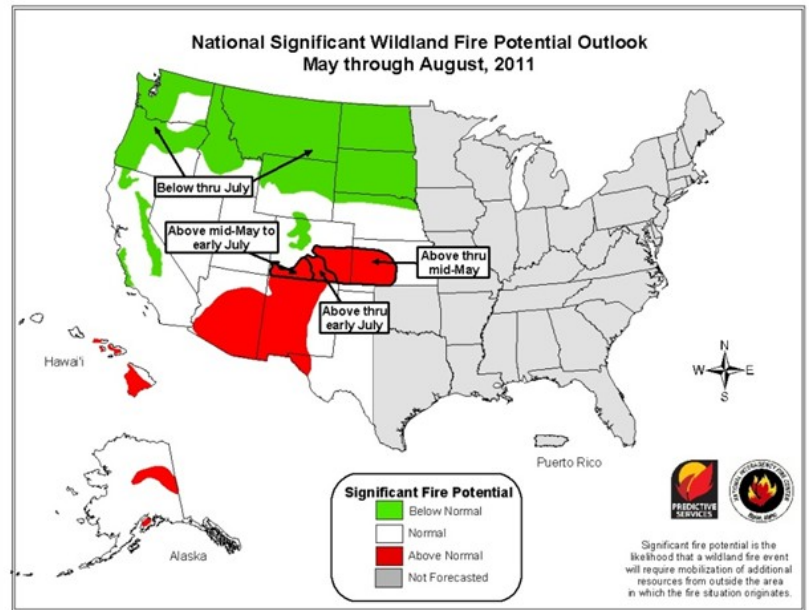
So now is the time to prepare for the fire season by making defensible space around your homes. This does not mean your landscape needs to be barren, but this does give fire-fighters a chance to defend your home in case fire approaches.

For more on defensible space, please go to the links below:

<http://csfs.colostate.edu/pages/defensible-space.html>

<http://www.firewise.org/>

<http://www.nifc.gov/preved/protecthome.htm>



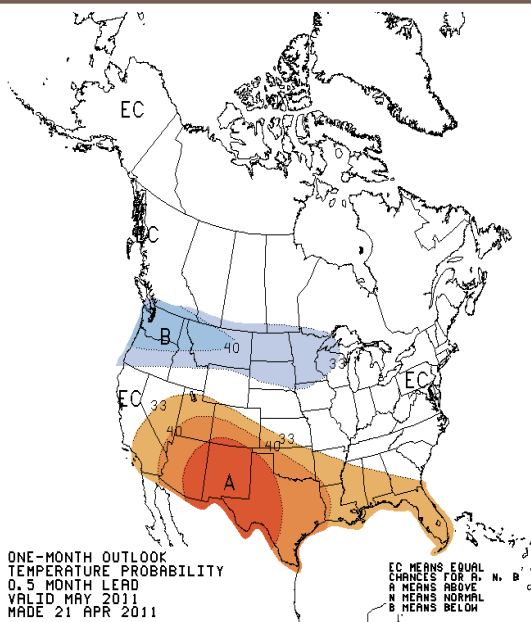
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May Outlook

<< Temperature Outlook

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